Product introduction for

Cutting Plotter

CE6000 series (STD)

(vol 1, rev 1a)

GRAPHTEC

Graphtec Corporation

Overseas Sales and Marketing Division

Product Outlines (STD)

Enhanced successor model of the CE5000 series

CE6000 is a successor of the CE5000 series was highly praised by customers all over the world. It inherits the basic performance and quality, and the functionality and productivity and usability are further enhanced.

Functionality : Expands applications by the enhanced ARMS, the perforation cutting, and other features

Productivity : Make the new design to improve tracking for enhancing productivity of long-length and continuous cutting

Operability : Easy operation by selecting operation mode (Simple/Normal)

also included in the other rich features and friendly design.

Aiming to further expand its share in the grit-rolling cutter market along with the FC8000 series that is the flagship model.

Professional **FC8000 series**

Standard **CE6000 series**

Concept & Product line-up (STD)

Standard grit-rolling cutter model in all over the world

Having full-feature and high-performance of cutting, it is a standard model of grit-rolling cutting plotter with professional-class performance at a reasonable cost.

Release to the market at 1st Dec. 2012

High quality & performance | Enhanced functions | Easy of use | Excellent-performance with reasonable cost

15 inch

CE6000-40

24 inch

CE6000-60

48 inch

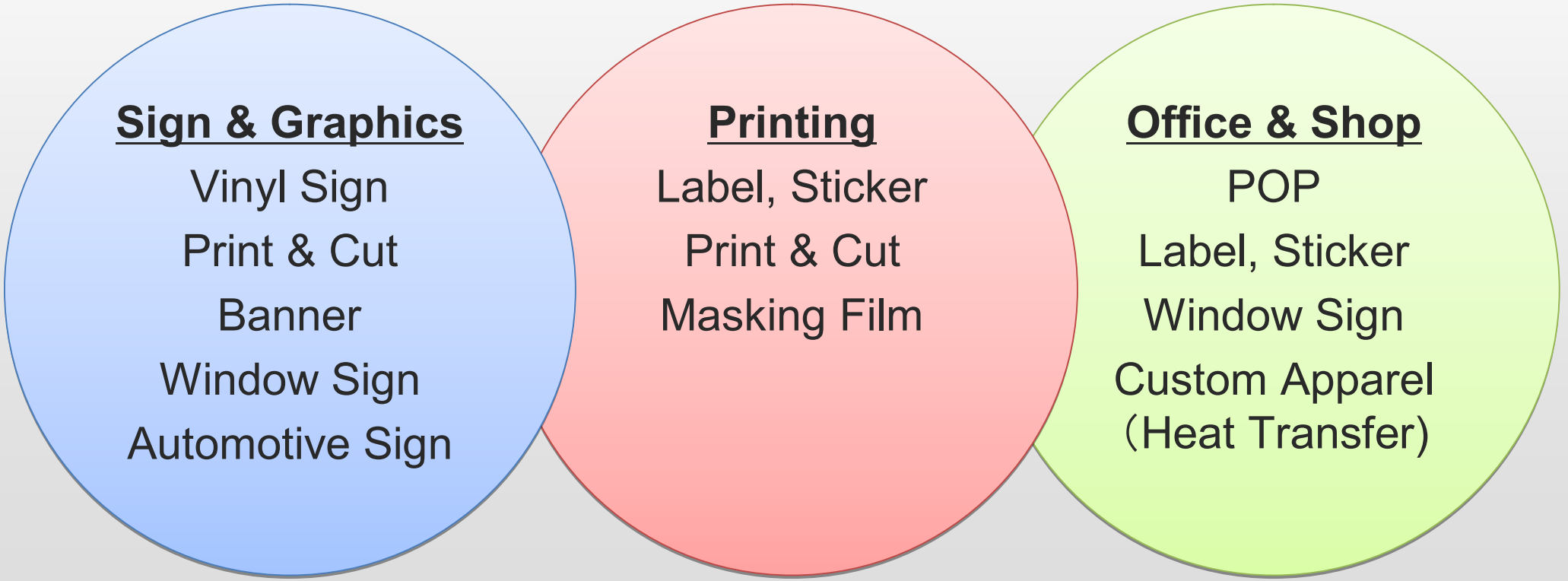
CE6000-120
CE6000-120-AMO

Target Market

High quality, best performance and full features satisfied professional !

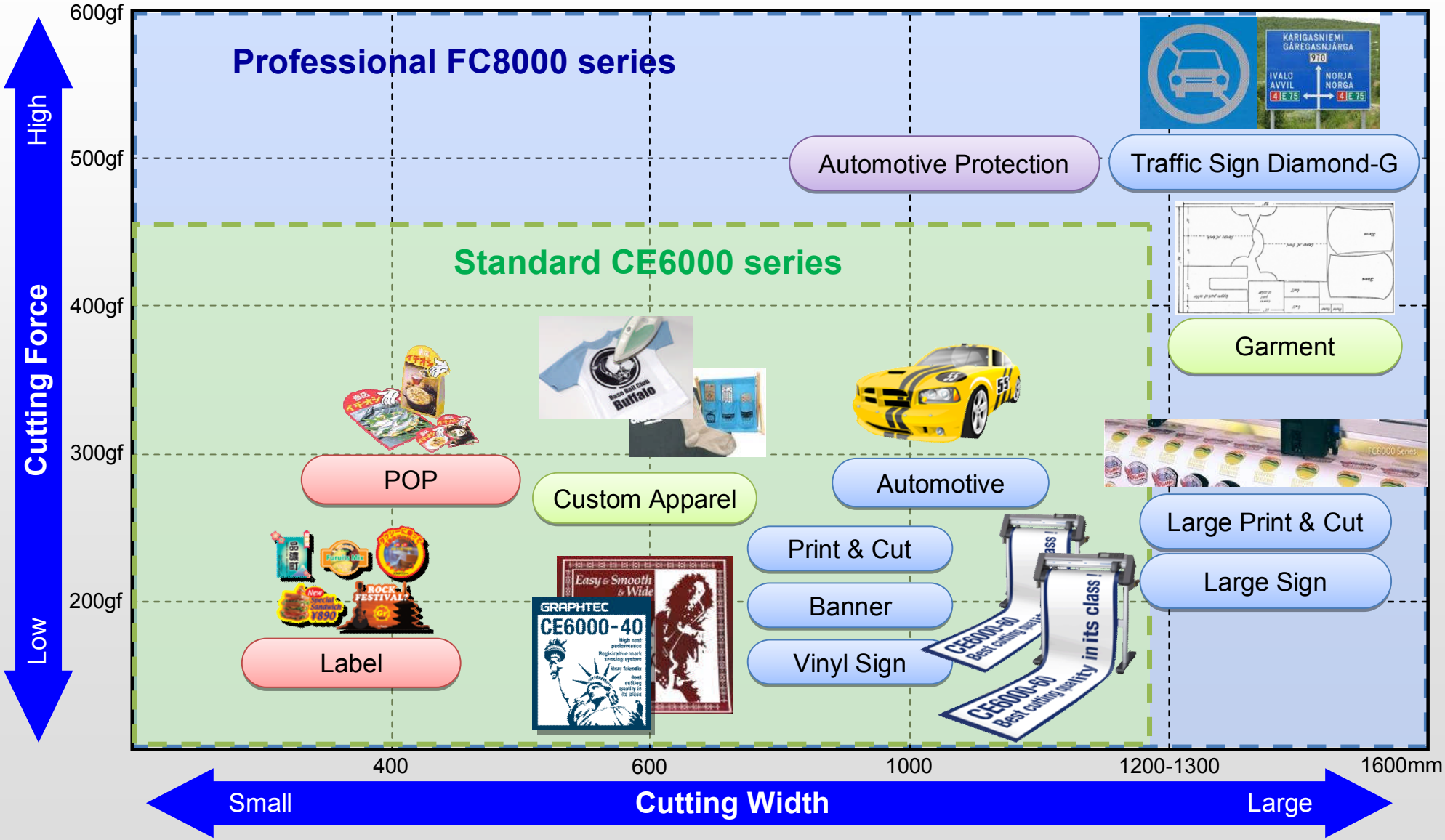
Friendly design and easy to use even beginners !

To be utilized to customers in various situation on variety markets !



Line-up & Applications in Grit-rolling cutter

CE6000 Target Market: Sign & Graphics, Printing, Office & Shop



CE6000 series New Features (STD)

Equipped excellent basic performance and new features of ease-of-use and productivity !

1. Reliable quality and cutting performance

   Achieved excellent cutting speed, cutting pressure, long length cutting stability, quality and productivity on the Vinyl Sign, Printing, Office market.

2. Evolved ARMS, plenty of features to enhance productivity

   - Equipped with the enhanced ARMS to improve the production efficiency and quality in the Print & Cut application.
   - Equipped new features as the perforation cutting and auto-paneling to improve the productivity.

3. Best operability (ease-of-use) & friendly design

   - Equipped with switching operation mode function that can be switched to the simple or the normal by the skill level of customer.
   - Friendly design for best operability with 3.7-inch graphic type LCD to display the menu in multi-language.

4. Attached new software with enhanced features & operability

   Cutting Master 3 : Plug-in software for Adobe Illustrator and CorelDRAW
   Graphtec Studio : Cutting design software
   Plotter Controller : Plotter control utility software (like the FC8000)

New features in CE6000 (STD)

- Improve the force up to 4.41N (450gf)*1 in CE6000-60 (CE5000-60: 2.94N (300gf))
- Improve the speed up to 900mm/s in CE6000-60 (CE5000-60: 600mm/s at all directions)
- Add a new feature and friendly-design to enhance the long length cutting stability
- Enhanced the ARMS to 5.0 for improving productivity of Print & Cut

  New function:

  (1) Auto detection of mark
  (2) Auto adjustment of mark sensor sensitivity
  (3) Expanding of effective cutting area
  (4) Shorting mark detecting time
  (5) Copy of object with ARMS
  (6) The media retainer, and etc.
- Add the perforation cut function for corresponding to cut-out processing
- Added the auto paneling function to utilize for cutting long length object
- Adds the two operation mode (Simple, Normal), it can be switched by the user's skill level
- Equipped the large graphic type LCD for friendly design and easy-to-use, easy-to-understand with menu icon
- Support 10 languages on the menu, and also include the system of double-byte characters such as the Russian, Chinese, Korean, Japanese
- Supplied the enhanced software as standard

  Cutting Master 3 : Plug-in software for Adobe Illustrator and CorelDRAW
  Graphtec Studio : Cutting design software
  Graphtec Studio Pro : Cutting design software professional (Option) (coming soon)
  Plotter Controller : Plotter control software (similar type as the FC8000 controller)

Note; *1: Instantaneously maximum force is 4.90N (500gf)

Reliable quality and Basic performance (STD)

Basic performance

Have excellent basic performance in CE6000

It shows the high quality and productivity in sign-graphics and printing market.

Cutting speed:

Capable of high-speed cutting in stable cutting quality, achieve high productivity.
(The maximum cutting speed is the 900 mm/s in CE6000-60, it is enhanced from the previous model CE5000.)

Cutting force:

Realize stable cutting quality, extend the material to cut.
(The maximum cutting force is the 4.41N (450gf) in CE6000-60, it is enhanced from the previous model CE5000.)

Model	CE6000-40	CE6000-60	CE6000-120
Destination code	E/C/K	E/ES/C/K	ES/CS/KS
Max. speed	600mm/s (ALL)	New 900mm/s (45)	1000mm/s (45)
Max. acceleration	21.2m/s² (2.2G) (45)		13.9m/s² (1.4G) (45)
Max. force	Instantaneously 3.23N (330gf) Guaranteed 2.94N (300gf)	New Instantaneously 4.90N (500gf) Guaranteed 4.41N (450gf)	Instantaneously 4.90N (500gf) Guaranteed 4.41N (450gf)

Notation of cutting speed and acceleration, (ALL): all directions, (45): in 45º direction

Long-length cut and Tracking (1) (STD)

Basic performance

Guarantee 5m long cutting in CE6000-60/120

(If it is used under the conditions specified by the Graphtec.)

The new design and the new feature are added to achieve a long length cutting. It is assumed to use by the various people including the professional and beginner.

Model	CE6000-40	CE6000-60	CE6000-60	CE6000-120	CE6000-120-AMO
Destination code	E/C/K	E/C/K	ES	ES/CS/KS	ES/CS/KS
Guaranteed long length cutting	2 m	2 m	5 m	5 m	5 m
Stand	N/A (Use stock tray)	N/A (Use stock tray)	Standard	Standard	Standard
Basket	Not available	Not available	Option	Option	Option
Number of push roller	2	2	2	3	4
Force of push roller	Single step	Single step	Single step	2 steps	2 steps
Stopper in the media stocker for roll media	No	No	Yes	Yes	Yes
Media guide bar for sheet media	No	No	No	Yes	Yes
Media guide line on the front guide	Yes	Yes	Yes	Yes	Yes

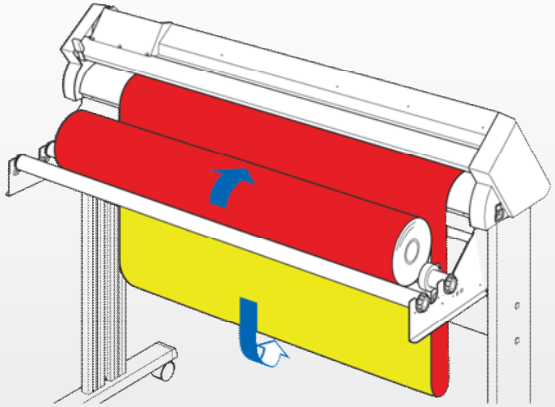
Note: the stand and basket need to be used for guaranteed to long length cutting. It is used with the specified condition by Graphtec such as the environment, the materials, and cutting conditions.

Long-length cut and Tracking (2) (STD)

Basic performance

Media stocker New 120, AMO

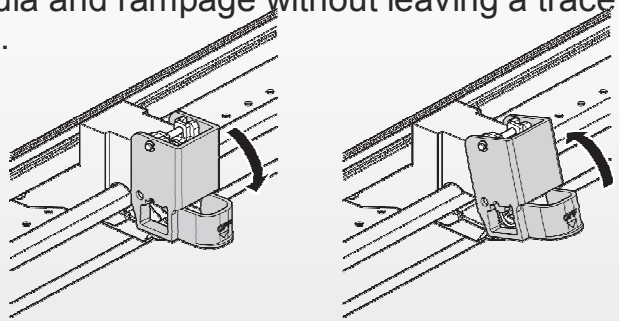
Support the more stable tracking in new media stocker.



Switching pressure New 120, AMO

The pressure of center push roller can be set to two-stage to middle and low to suit the material.

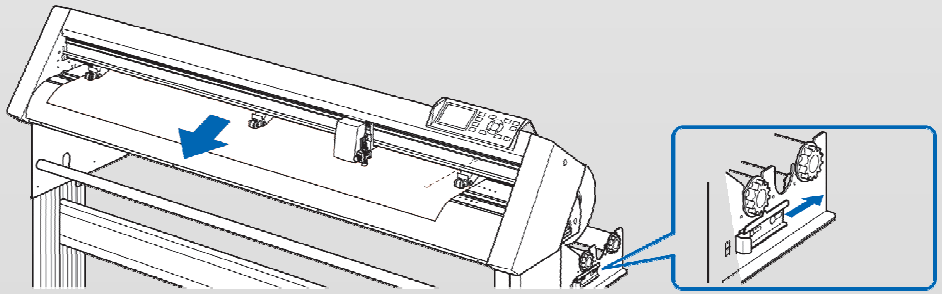
Pressure is set to zero in low selection, it can avoid the lifting of the media and rampage without leaving a trace mark on the media.



Media stopper New 60, 120, AMO

Equipped with a stopper in the media stocker.

The roll media can be set precisely by adding tension to the media.

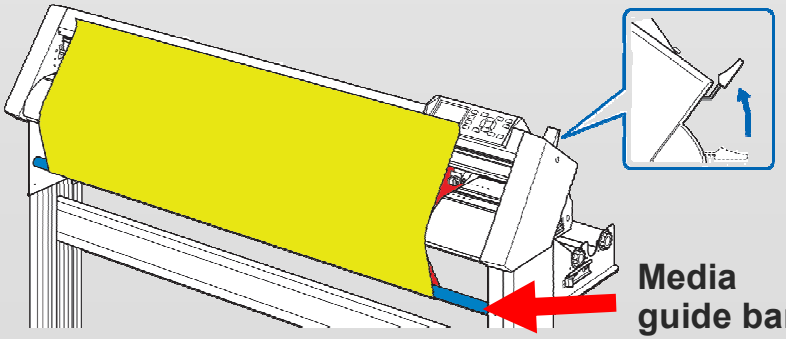


Stopper mechanism

Media guide bar New 120, AMO

Equipped the media guide bar to the front.

The sheet media can be set precisely using it.



Media guide bar

ARMS 5.0 *Advanced Registration Mark Sensing System* (1)

Enhanced functions

Enhanced ARMS to 5th generation

It has new features that are added to the ARMS3.0 in the CE5000. It supports the work of the Print & Cut by improving quality and productivity.

Auto-detection of mark position *New*

Supports new detection method that a searching area is expanded including the area front side of the current tool position.

Auto mark sensor sensitivity adjustment *New*

Mark sensor sensitivity is automatically adjusted using actual media. A variety of media can be supported.

Expanded cutting area *New*

Expands the cutting area using the ARMS, increase the production efficiency by effectively used for the media.

4 point axis alignment

4 point registration marks for accurate alignment and dynamic re-scaling independently in both X and Y axis.

Segment area compensation

Reading the position of the middle registration marks for additional precision and faster throughput in alignment of long length jobs.

Multiple mark compensation

Reading marks on multiple designs sequentially for higher productivity.

Software control (*Cutting Master 3, Cutting Master 2, Graphtec Studio, etc.)*

Controls the ARMS from the software for easy-to-use operation.

ARMS 5.0 Advanced Registration Mark Sensing System (2)

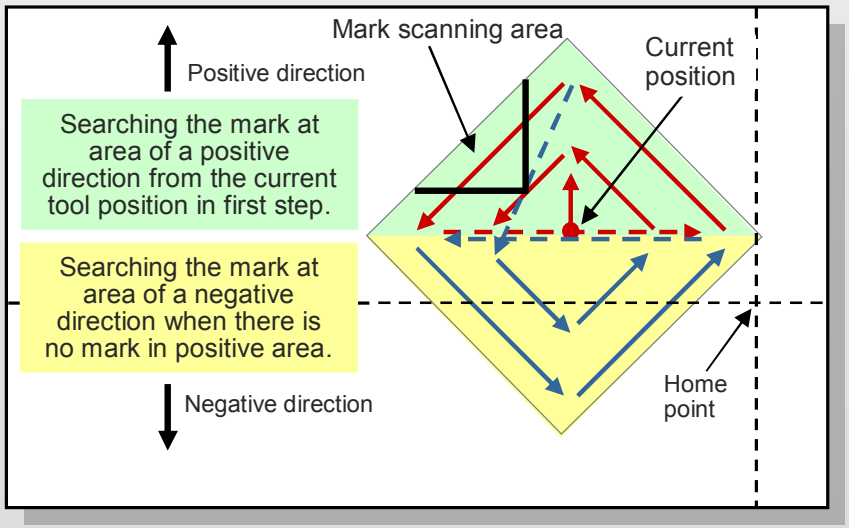
Enhanced functions

Auto-detection of mark

New

The first registration mark is detected automatically. There is no need to move the tool head to near position of mark manually.

The detection method is enhanced. The mark searching area is expanded to the area of diamond centered on the current position of the tool from the area of triangle the current position is the vertices.
It can also search area front side of the current tool position.

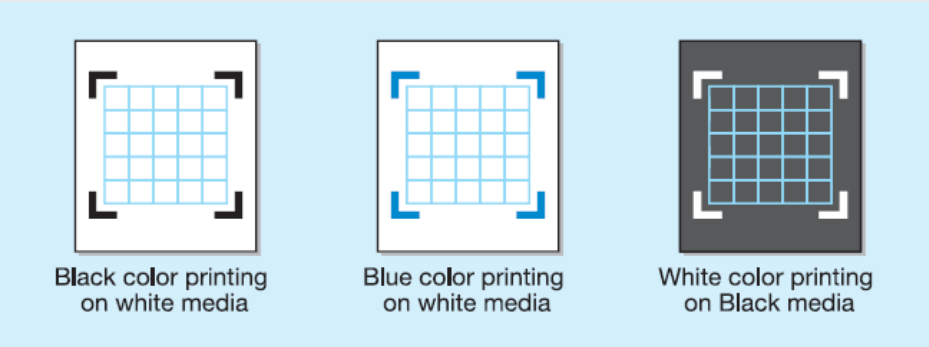

Mark scanning area
Current position
Positive direction
Searching the mark at area of a positive direction from the current tool position in first step.
Searching the mark at area of a negative direction when there is no mark in positive area.
Negative direction
Home point

Auto sensitivity adjustment

New

Sensitivity of the sensor is automatically set by using the reflection level of the mark and the background of the media that have been measured in advance.

The mark can be detected when the color of the mark has the contrast with background color. For example, blue mark on white background is also possible to detect as same as black mark. Also, mark is possible to detect in inverted image as white mark on black background.



ARMS 5.0 Advanced Registration Mark Sensing System (3) (STD)

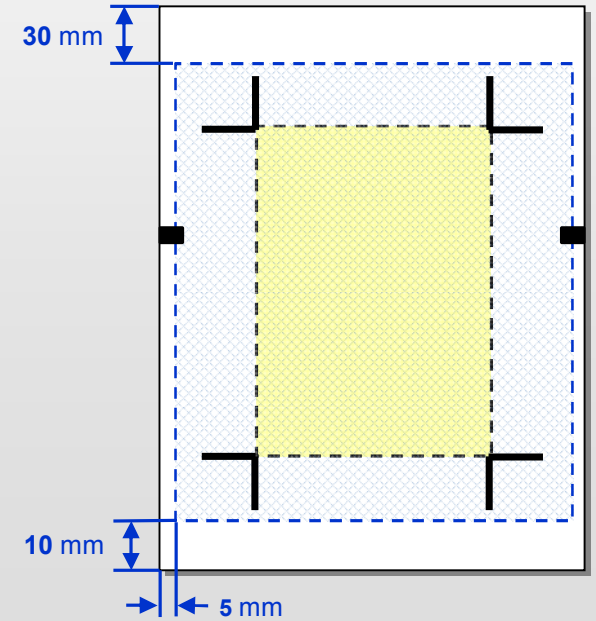
Enhanced functions

Expanded cutting area

New

The cutting area is expanded when the ARMS is used. Until ARMS 4.0, the inside of the area enclosed by the mark is the effective cutting area. In ARMS 5.0, it is possible to cut area of outside enclosed by the mark.

It increase the production efficiency by using the media effectively.



Note: In perforation cut on CE6000, rear margin of cutting area will be the 35mm.

CE5000 (ARMS3.0) Cutting Area

CE6000 (ARMS5.0) Cutting Area

Copy with ARMS

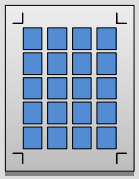
New

Greatly enhanced copy function.
A copy of the cutting data including the ARMS control command is now available. Multiple sheet of media can be made by using a copy function without a PC. It improves the work efficiency of Print & Cut.

- Corresponding to the continuous copying without key operation, just replace the media.
- COPY key as the direct asccess key is added.

Benchmark conditions

Paper size: *A4 size Print & Cut*
Quantity: *100 sheets*
Speed: *30*
Note: Time measurement is including the time for reloading the sheet.



x 100

ARMS 5.0 Advanced Registration Mark Sensing System (4)

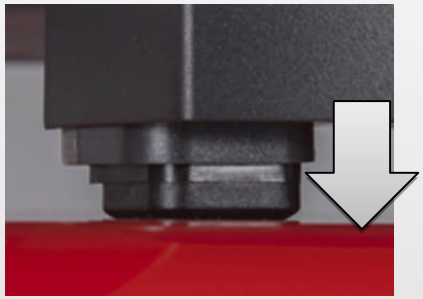
Enhanced functions

Hood of sensor (media holder)

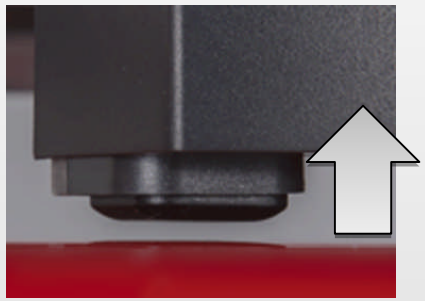
New

The hood is equipped to the mark sensor part. It has a function of holding the media to the panel for preventing the lifting of the media. It also prevents the influence of ambient light.

It can read the mark stable.



When the mark searching is started, the hood is lowered and hold the media.

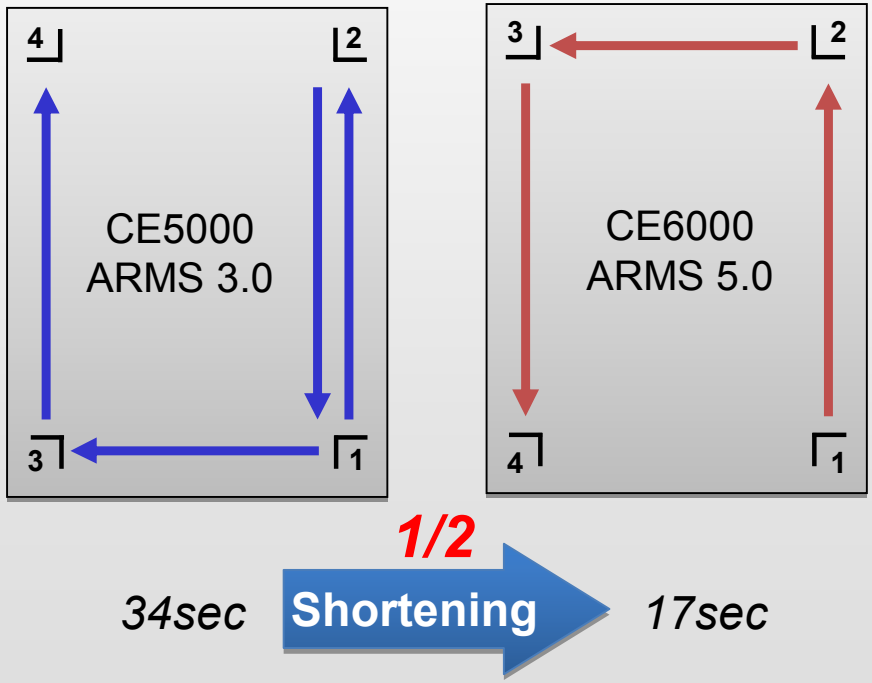


When the mark searching is completed, the hood is lifted.

Reduce detection time

New

Sequence of scanning the mark is changed for significantly reducing the mark detection time. Mark detection is possible at 1/2 of the conventional model.



Benchmark conditions

Page size:	*900mm x 600mm*
Mark Space:	*750mm x 500mm*
Speed:	*30mm/s*

ARMS 5.0 Advanced Registration Mark Sensing System (5)

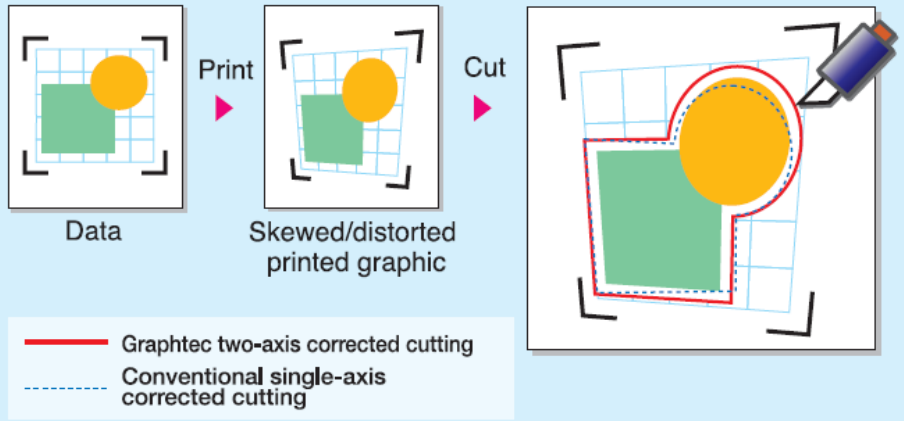
Enhanced functions

4 4-point axis alignment

Corresponds to the four-point method with higher accuracy and to the two-point or three-point method with fast speed. It can be selected depending on the application.

It compensates for the distortion of the X-axis and Y-axis by correction function of the highest level in the world. It realized more accurate correction compared to other manufacturers four-point correction (trapezoid compencation assumed Y-axis direction is parallel).

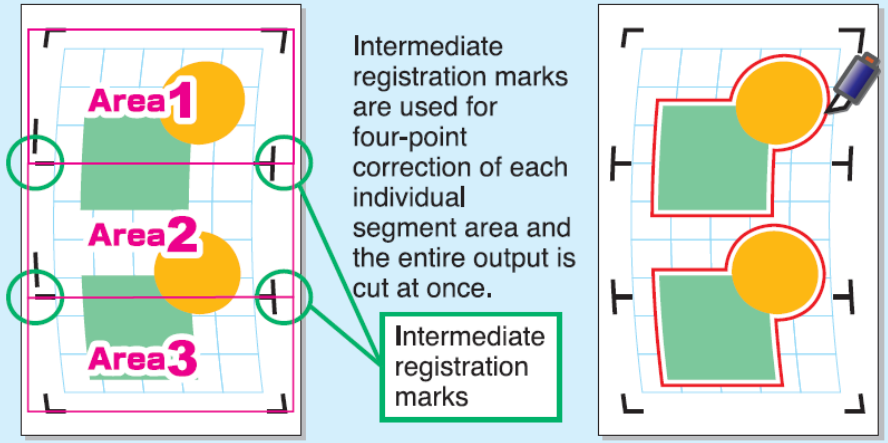
It provide the reliable quality at Print & Cut.



A Segment area compensation

The 4-point compensation is performed for each segmented area that consisted of reading the mark in the middle of the media feeding direction.

It provide high-precision alignment in the Print & Cut of long-length.


Area1
Area2
Area3
Intermediate registration marks are used for four-point correction of each individual segment area and the entire output is cut at once.
Intermediate registration marks

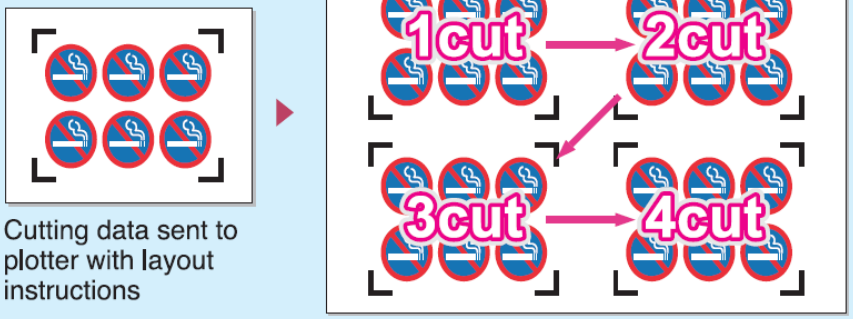
ARMS 5.0 Advanced Registration Mark Sensing System (6)

Enhanced functions

Multiple marks compensation

When the design is printed in the matrix copy condition, the action of reading mark and then cutting contour is performed repeating in each copy.

It can significantly reduce the working time and improve productivity of the Print and Cut application in case of the multiple copies.



The object is printed in pagination printing condition. The reading mark and cutting contour are executed in each copy sequentially.

Software support

The command for controlling the ARMS function from the PC is available. A simple operation is realized by controlling the parameters such as the spacing and size of marks from the software.
The following software support the ARMS control command.

- Cutting Master 2
- Cutting Master 3
- Graphtec Studio
- Graphtec Studio Pro (coming soon)
- Plotter Controller

The command for the ARMS is described in the SDK. It can be provided to the software developer who want to respond to RMS in own software.

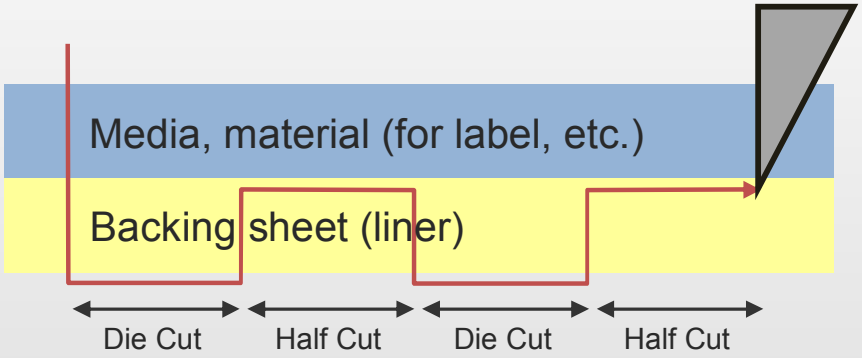
Perforation cutting function (STD)

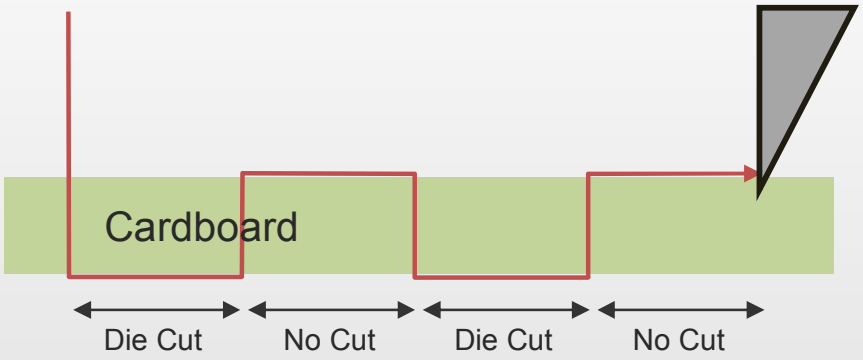
New

Enhanced functions

It corresponds to the cutting-off processing

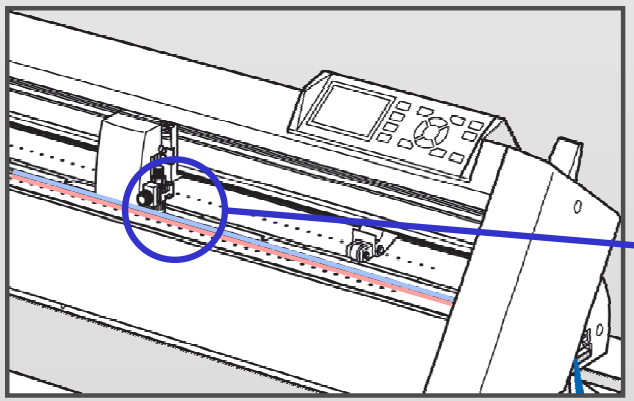
New method of perforation cutting function that is performed by cutting force control is added. It makes less movement of the tool for rising and lowering, and it makes efficient processing.
It is suitable to cut the frame of the label, the fold line in POP, and the cutting-off line.

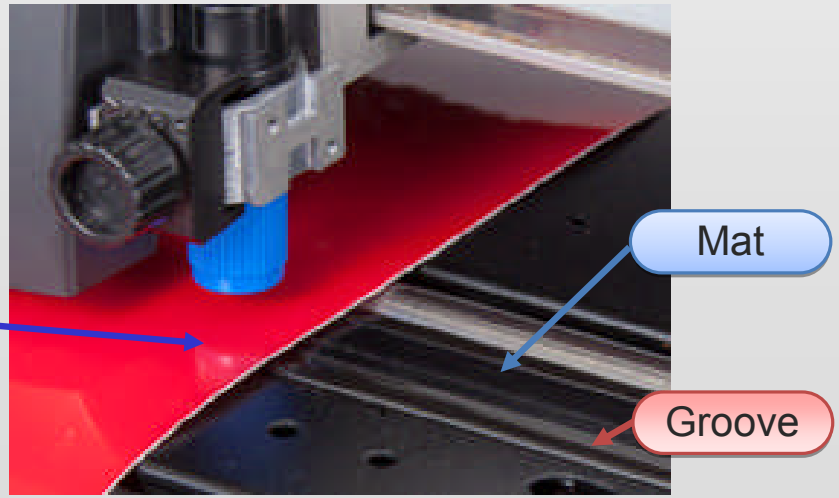




Plastic cutting mat for half cut

Groove for perforation cutting





Feature for higher productivity and quality

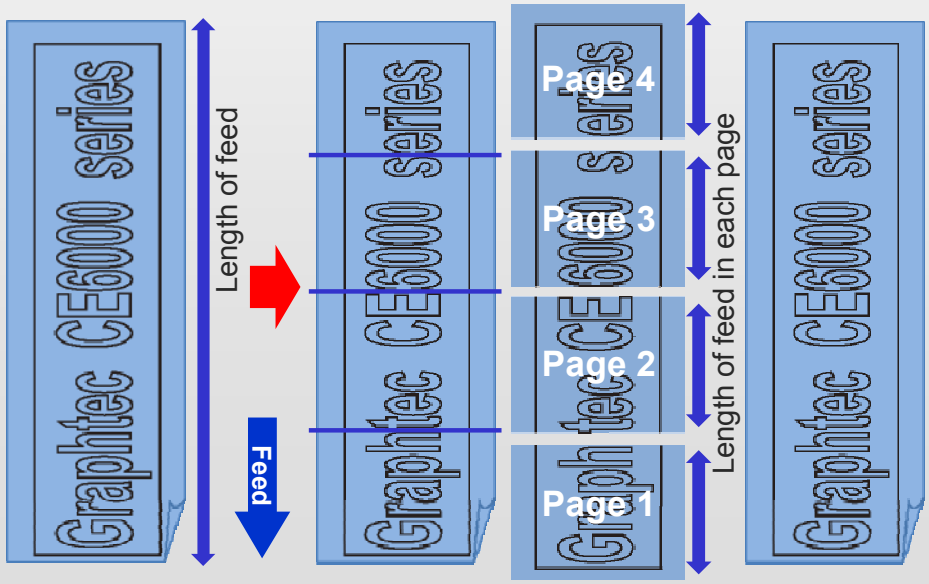
Enhanced functions

Auto-paneling

New

When design of long length is transferred to the plotter, it is split to smaller page in the plotter automatically. Then each page will be cut in sequence, and split design will be connected to one pattern by not executed the page cross cut.

It makes stable cut in design of long length because the media movement in feeding direction will be shorter up to page size.



Other features

- Sorting
  The sorting function is to sort the order of cutting for minimizing to amount of movement in the media feed direction.
  It improves productivity by shorting cutting time.

- Tangential emulation
  The tangential emulation controls the blade direction to make the sharp cutting in sharp corners.
  It is effective to the thicker material.

- Tool condition settings memory
  8 different tool condition settings are stored in the CE6000. It can easily change the condition settings in simple operation to suit the material to cut.

- Tool tray
  Tool tray for small objects such as the cutting blade, blade holder, cut-out knives, and etc.

Simple operation mode (1)

New

Operations

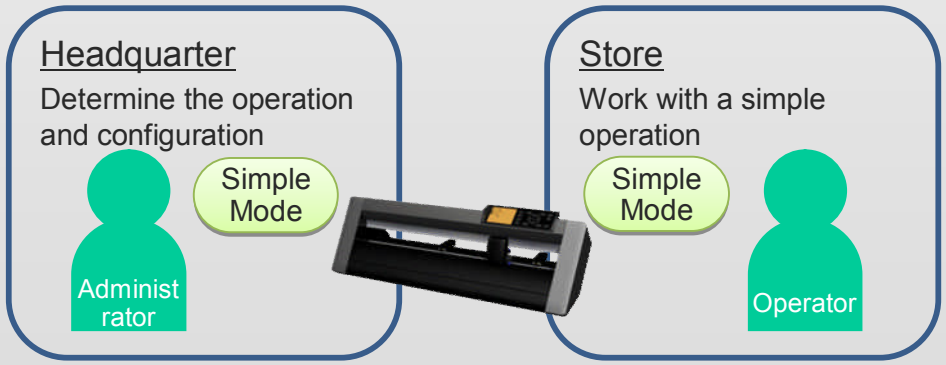
New function to select the operating mode by the skill of user

There is the normal operation mode for using full function by high-skilled workers and the simple operation mode to easily use by everyone. The setting in each mode can be saved independently. It expands the application to various situation.

- Simple Mode : Menu display only the necessary items for make simple operation
- Normal Mode : All functions are available and all menus are displayed

Franchise

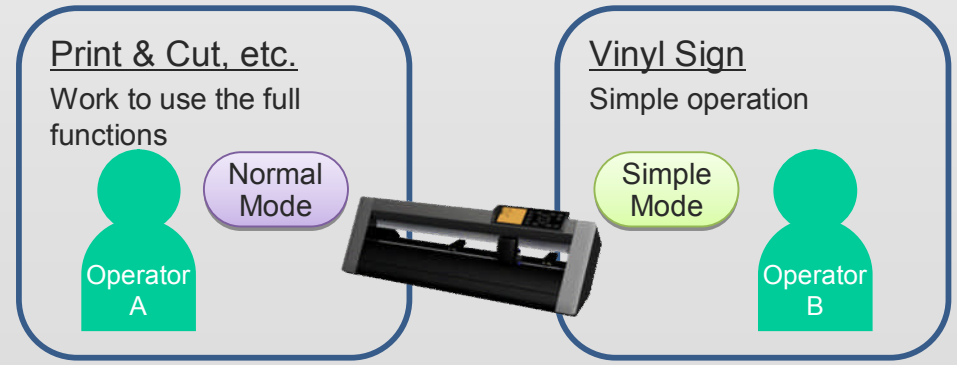
In case of the apparel or retail industry, advertising design is created in headquarters and then the advertising material is made in the store by using the cutter It can be possible to avoid an error even if the level of operator skill to use the cutter in the store is low.



Application: Vinyl Sign, Label, Heat Transfer

Proper use for applications

In case of the sign or printing industry, the cutter is used in variety of application.
It can be increase the work efficiency by using the Simple or Normal mode to fit with the application.



Label, Heat Transfer, POP, Vinyl Sign

Simple operation mode (2) (STD)

New

Operations

Setting items in Simple mode

Menu item	Setting items	Factory default settings	
Media (MEDIA)	Page length	200.0 cm	
Interface (I/F)	HP-GL origin	Lower left (LL)	
	GP-GL step size	0.100 mm	
Advanced (ADV.)	Displayed language	Selected during initial power-up	
	Unit of length	Selected during initial power-up	
Condition settings (Condition)	Media name	Speed (cm/s)	Force adjustments to the reference value
	Outdoor vinyl	20	0 adj. (in ref. 12)
	Indoor vinyl	20	0 adj. (in ref. 15)
	Clear Film	20	0 adj. (in ref. 17)
	Refractive film	20	0 adj. (in ref. 17)
	Fluorescent film	15	0 adj. (in ref. 22)

- When mode is switched between the Simple and the Normal, the initialization process is executed automatically.
- In the Simple mode, the ARMS function can be controlled using command from the software. The some parameter of the ARMS cannot be set in the operation menu. When some parameters are not set in the command, those parameters are set to the same as the setting in the Normal mode.
- In the Simple mode, the perforation cutting cannot be executed.
- In the Simple mode, the stored tool condition settings can be changed using the Plotter Control software. It can change easy to the settings to fit application and the media to use.

Operation Panel

New

Operations

Friendly design to pursuit of an operability on the operation panel

- Equips graphic type display, 3.7-inch LCD (240dots x 128dots)
- Configured 15 buttons, 6 keys responds to the direct action
- Supports 10 languages in menu
- Support double-byte character system in Chinese, Korean, Russian, and Japanese
- Friendly design, the contents of the operation can imagine by displayed an icon in the menu

CE6000 Support Languages

Operations

Supports 10 languages in CE6000 and software

Language		English	French	German	Italian	Portuguese	Spanish	Russian	Korean	Chinese (Simple)	Japanese
Operation Panel (Menu)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Users Manual		✓				✓	✓		✓	✓	✓
Setup Manual		✓				✓	✓		✓	✓	✓
Plotter Controller Manual		✓				✓	✓		✓	✓	✓
Graphtec Studio	User Interface	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Manual	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Plotter Controller	User Interface	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Help menu	✓									✓
Windows Driver	User Interface	✓									✓
	Help menu	✓									✓
Cutting Master 3	User Interface	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Users Manual	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Software

Software

Supplying new software that has the enhanced features and usability

New Cutting Master 3 : Plug-in software for Adobe Illustrator & CorelDRAW
New Graphtec Studio : Cutting Design Application Software
New Graphtec Studio Pro : Cutting Design Software Professional (Option) (coming soon)

Model	Description	Win7		Vista		XP		OS X (10.5.8 - 10.8)
		64bit	32bit	64bit	32bit	64bit	32bit	
OPS662	Windows Driver (Attached as standard accessory) Generic plotter driver for Windows OS	●	●	●	●	●	●	N/A
OPS676	Plotter Controller (Attached as accessory) CE6000 plotter controller	●	●	●	●	●	●	N/A
OPS678	Cutting Master 3 (Attached as accessory) Plug-in software for Adobe Illustrator and Corel DRAW Illustrator CS4, CS5, CS6 CorelDRAW X4, X5, X6	●	●	●	●	●	●	●
OPS679	Graphtec Studio (Attached as accessory) Cutting design software	●	●	●	●	●	●	●
OPS679	Graphtec Studio Pro (Option) (coming soon) Added the functions such as to import of the DXF file to the Graphtec Studio software	●	●	●	●	●	●	●
SDK	Software Development Kit (entry in WEB) Document for programming own software	●	●	●	●	●	●	N/A

Cutting Master 3 *Plug-in software* (1)

CM3 Cutting Master 3

Software

About the Cutting Master 3

The Cutting Master 3 is the plug-in software for the Adobe Illustrator and CorelDRAW. It runs in separate window.

Design data that is created in the Illustrator or CorelDRAW is transferred to the cutting plotter through the Cutting Master 3. The cutting plotter can be controlled in the Cutting Master 3.

Supported version of application software

Windows:

CorelDRAW X4, X5, X6
Adobe Illustrator CS4, CS5, CS6

Macintosh:

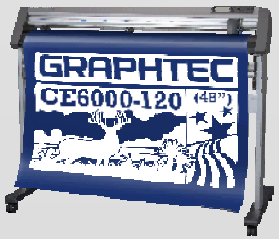
Adobe Illustrator CS4, CS5, CS6

Work flow

(1)
(2)

(3)

(4)



(1) Design is created using the supported version of Adobe Illustrator or the CorelDRAW.

(2) Registration mark for alignment of contour is created using the function of the Cutting Master 3 if it is necessary.

(3) Design data is transferred to the Cutting Master 3 using the plug-in software icon on the Adobe Illustrator or the CorelDRAW. The Cutting Master 3 will open in other window with transferred data.

(4) Cutting data is transferred to the cutting plotter. The cutting plotter starts the job.

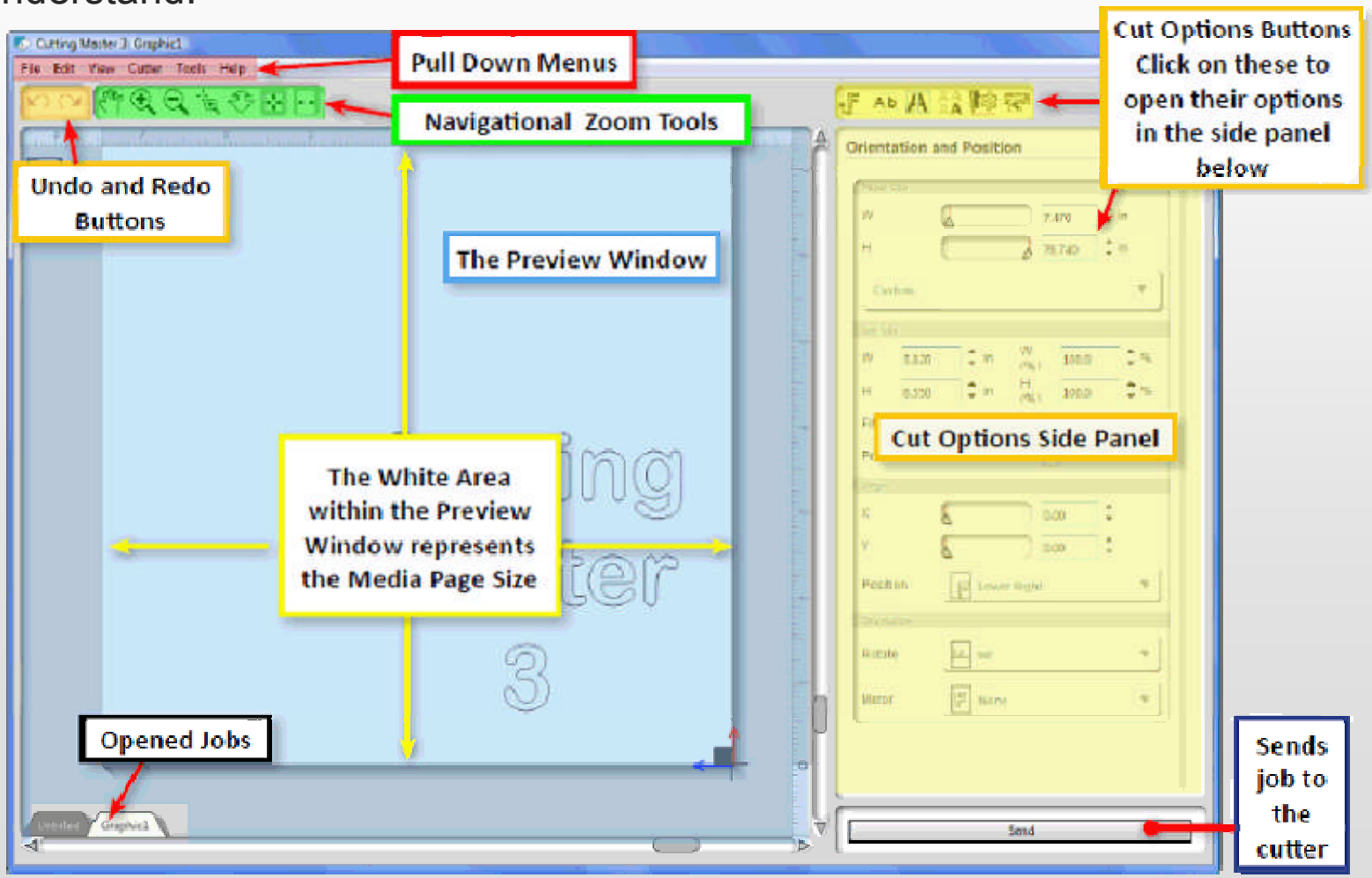
Cutting Master 3 *Plug-in software* (2)

CM3 Cutting Master 3

Software

Easy-of-use

The object will be displayed in the pre-view window after the design is transferred to the Cutting Master 3. The layout of screen is in a simple and straightforward as shown below. It is easy to understand.


Pull Down Menus
Navigational Zoom Tools
Undo and Redo Buttons
The Preview Window
Cut Options Buttons Click on these to open their options in the side panel below
Cut Options Side Panel
The White Area within the Preview Window represents the Media Page Size
Opened Jobs
Sends job to the cutter

Cutting Master 3 *Plug-in software* (3)

CM3 Cutting Master 3

Software

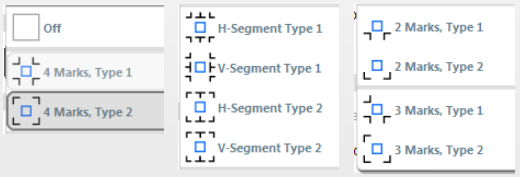
Main features

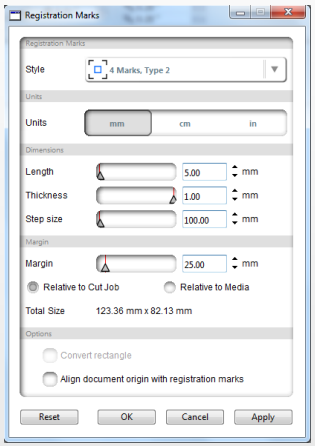
The Cutting Master 3 has a variety of features such as the registration mark, matrix copy, the tiling, weeding line settings, tool conditions, settings of cut job, and others.

Reg. Marks

Registration marks can be added to the printing object.

The type of mark can be selected from 10 patterns. It is used for the Print & Cut application.



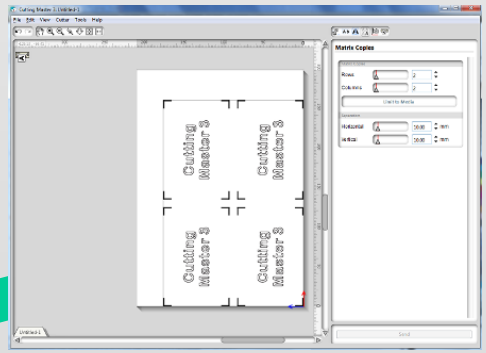


Matrix copy

It is used for creating multiple copies of the same object.
The object is copied in specified matrix condition.

When the object is in pagination printing condition, the action of reading mark and then cutting object is performed repeating in each copy.
It improve productivity of the Print and Cut application.

Original



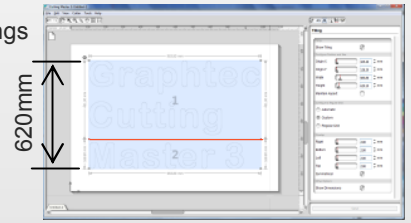
Example, object is laid to 2 by 2.

Tiling

The cutting object will be split up onto a number of smaller tiles.
The split object can be cut separately.

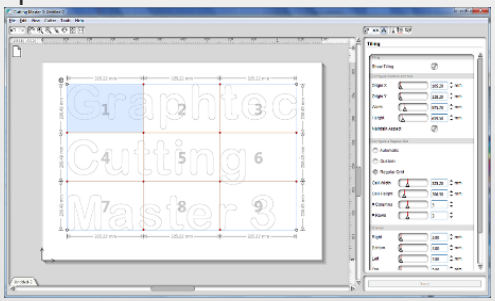
When the cutting object is larger than the width of the media, the object can be split to the width of the media.

Settings



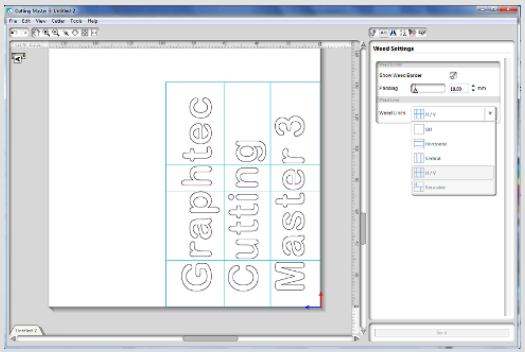
Actual Cut (cut in 2 pieces)

When the large object needs to be placed to the surface made by multiple panels, the object can be split to size that is fit to the panel.



Weed boarder

Boarder line and weeding line can be added in the cutting object automatically and then it is cut.
It makes easer to remove the excess material from the media.



Graphtec Studio *Cutting design software (1)*

New Software

Easy-to-use software for creating and editing the cutting object

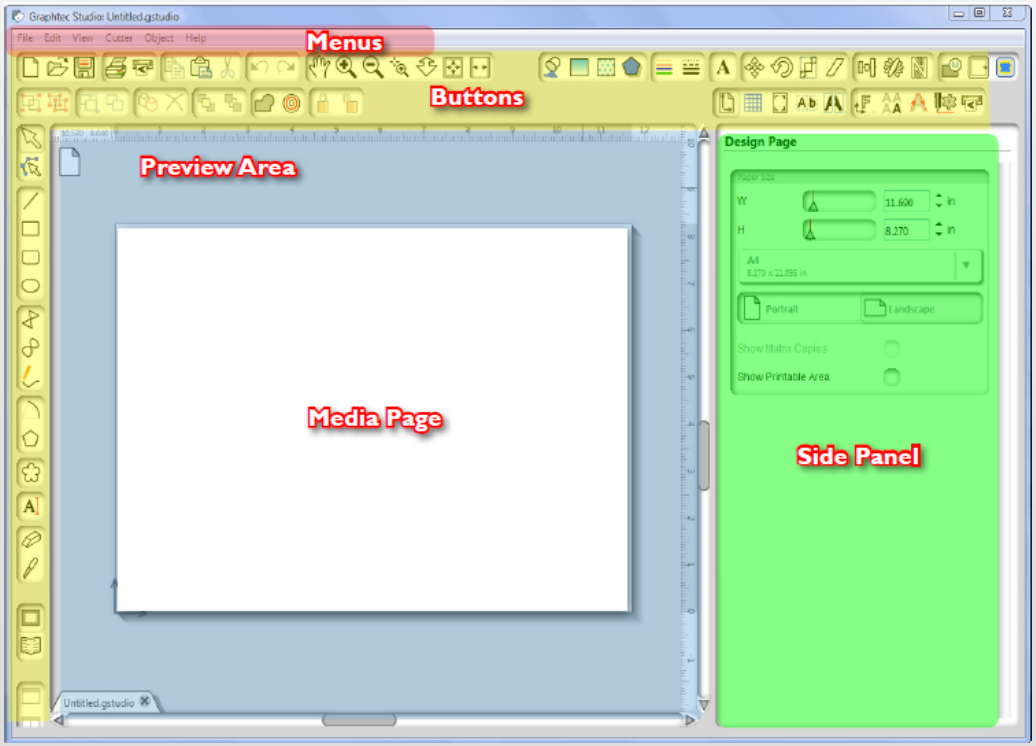
It is new software, it can be easily to create the object using the icons that are arranged around the drawing area.
It has higher usability by the screen that are arranged in five area such as the Pull-down menus, icons, preview area, drawing area, side panels. It can be used immediately after it is installed.

Menus (Pull-down)

Various functions available in Graphtec Studio are contained. The item in the pull-down menu is grouped by function.

Buttons (Tool icons)

The tool icon is displayed, it is grouped by the item of function for setting and editing.



Preview Area

Object is displayed in the process of the designing and the cutting.

Media page

It is white area that is relating with the page size in the preview window. The object is created and placed in there.

Side panel

It is displayed the options for the selected function. The details of function can be set.

Graphtec Studio *Cutting design software (2)*

New

Software

Easy-to-use, Icons & features

File management tools

This button group used to perform general file management functions, such as the opening, saving, sending document to printer or Graphtec cutter.

Standard editing tools

This button group is used to the basic operations such as the copy, cut, undo and redo .

Zoom tools

This group button is used to the basic functions of the zoom in or out .

Quick editing tools

This button group is used for quick editing. There are tools to the selecting/grouping of images, copying/deleting of images, reorder of the objects (forwarding image to the foreground of other images or send it to the back of the other images), quick join/create outline, and locking/unlocking.

Style tools

This group button is used for changing the object style such as the filling image, changing type of lines, adjusting the text attributes, and adding a shadow (only the Pro edition). One of these buttons is clicked, the tool options are displayed in the side panel.

Processing tools

This button group is used for basic functions such as the copy, cut, paste, undo, and redo.

Operating tools

This button group is used for the alignment, replication and nesting. One of these buttons is clicked, the tool options are displayed in the side panel.

Changing shape tools

This button group is used to change shape, offset of outline, and trace the object. Cropping, trimming, binding, and subtracting are included in the change of shape.

Page setup tools

These two buttons are used to set the page size and grid.

Preparation cutting tools

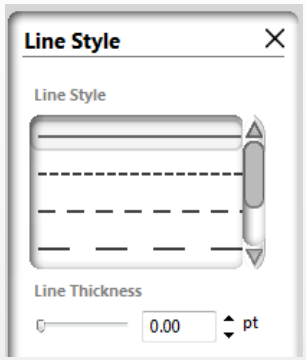
This button group is used to tiling, mark settings, weed and etc. for preparing to design of the cutting job. The preview area is set to design mode by clicking the button in the first three, it is set to cutting preview mode by clicking the button on the remaining five.

Graphtec Studio *Cutting design software (3)*

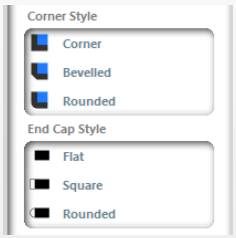
New Software

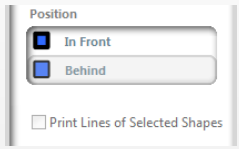
Main features for editing

Line style

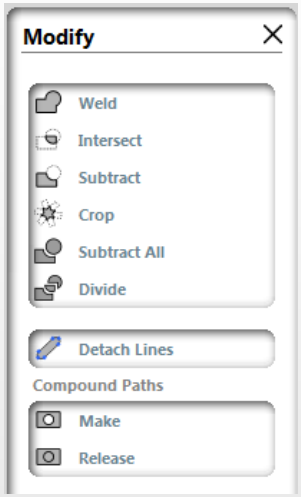


It can set configuration of line intuitively to plot such as style, corner, end cap, and position.

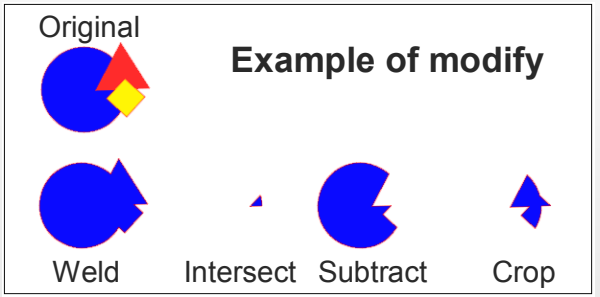




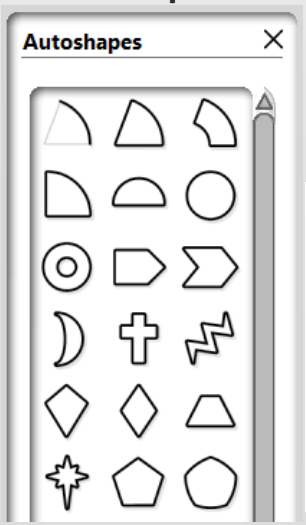
Editing function



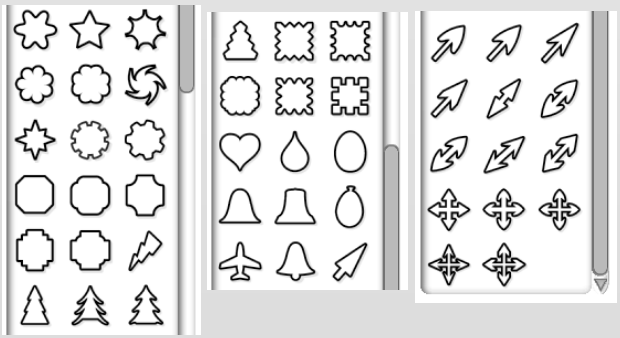
it can be edited using the functions such as the crop, the join, and etc in each of shapes on the overlapping objects.



Auto-shapes



There are 68 shapes, and also can edit easy it.



Shaded function

It can easily paint colors on a object of the illustration and can also fill in a gradient or pattern.

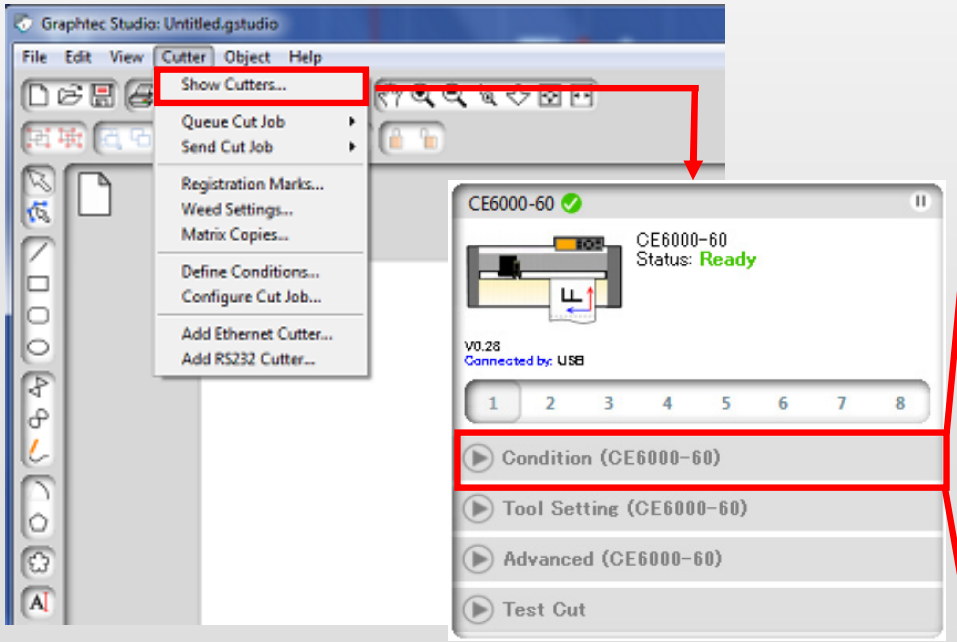
Graphtec Studio *Cutting design software (4)*

New Software

Plotter settings

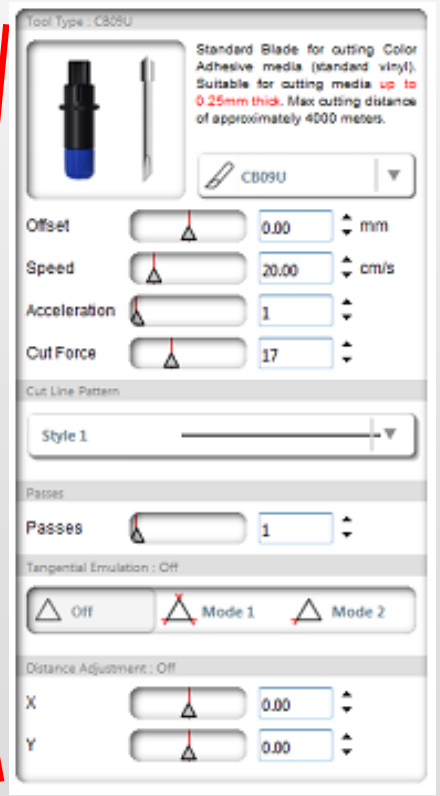
The cutting condition in the cutting plotter can be monitored and configured from the software. It can easily select the cutting plotter for using to the cutting job.

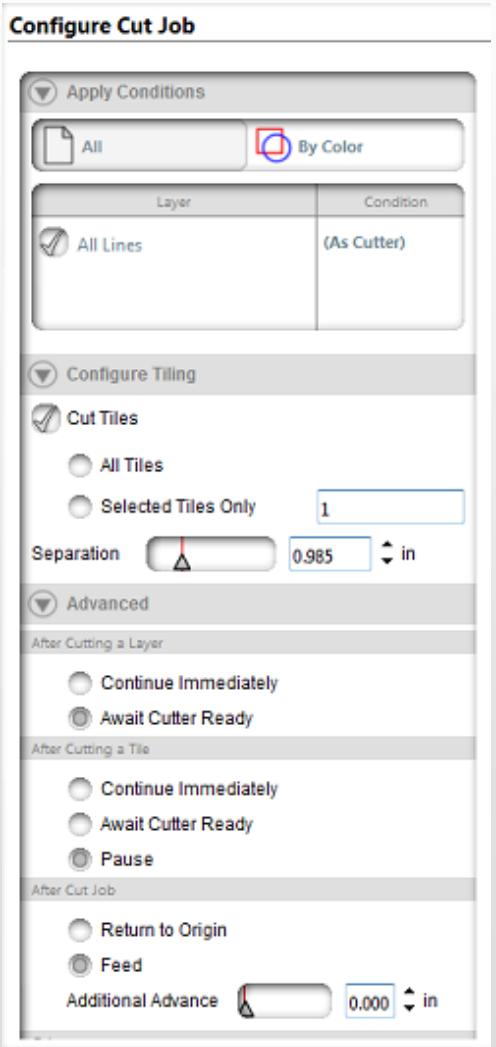
The settings of the plotter that is selected from the connected to the PC can easily be configured by starting with the “Show Cutters..." menu.



The available cutters are shown in the side panel.

When select the item, the detail of the setting is displayed in the side panel. The current settings of the plotter can be checked from the PC. The settings also can be changed.


Standard Blade for cutting Color Adhesive media (standard vinyl). Suitable for cutting media up to 0.25mm thick. Max cutting distance of approximately 4000 meters.
CB09U
Offset 0.00 mm
Speed 20.00 cm/s
Acceleration 1
Cut Force 17
Style 1
Passes 1
Off Mode 1 Mode 2
X 0.00
Y 0.00



Plotter Controller (1)

Software

New Plotter Controller, Easy-to-use and enhanced functions !

- Easy configuration from the PC

  Operations and settings can be performed from a PC using the plotter control software. It is easy to see settings that the related items are displayed on one screen. The process to cutting process from the creation of the design can be make in efficiently by that the controller can be started from the Print menu of the application software.

- Saving the tool conditions

  The tool conditions can be set up to 100 sets to the media list in the control software. The media list can be saved to the PC and loaded it from the PC.

- Reading and Sent the plotter configuration settings

  The tool condition settings can be read to the controller software from the plotter. The loaded tool condition settings cab also be edited in the software, and then it can be transferred to the plotter for changing it.

- Reading and Sending the plotter settings

  The condition information and an error log can be loaded from the plotter, and it can be saved to the PC as a file.

- Saving and Loading the settings

  The settings of the software can be saved to the PC as a file, and re-loaded it to the software.

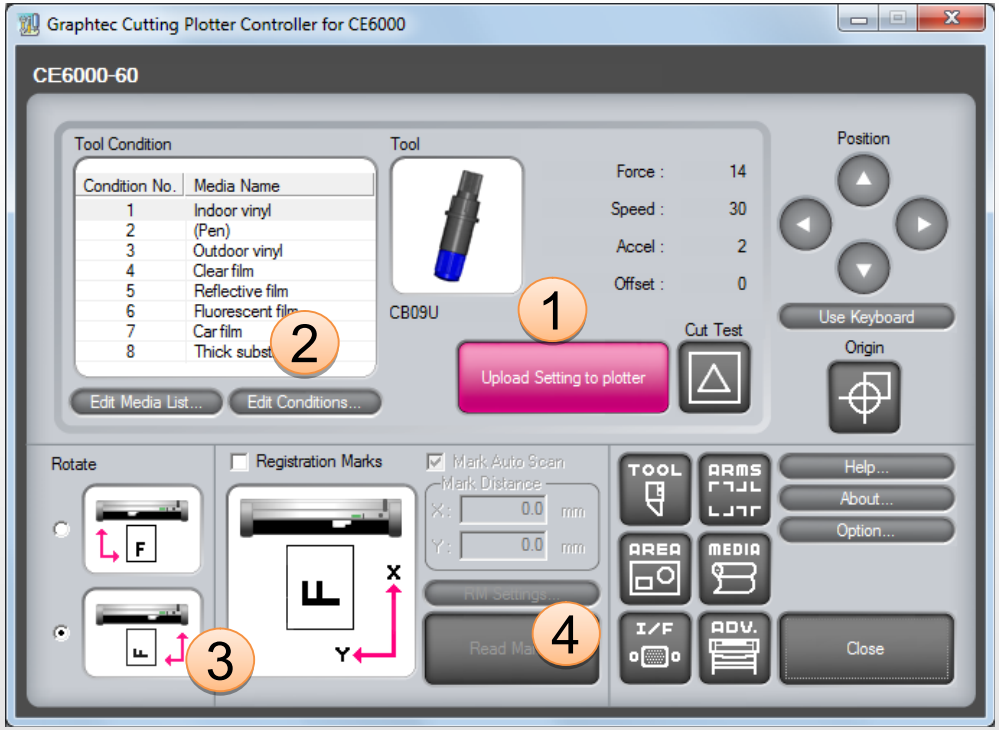
Plotter Controller (2)

Software

Can be controlled almost all functions on the CE6000 in the software

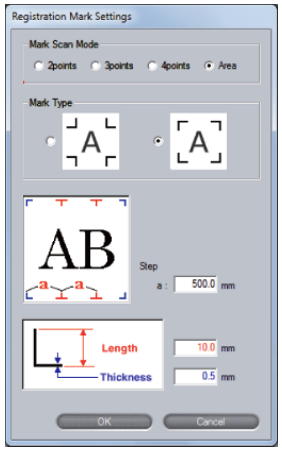
1. Conditions:

Cutting conditions that are the speed, acceleration, force, and etc. can be set.



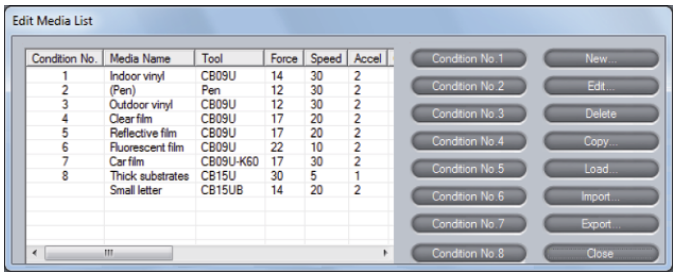
4. RMS Advanced settings:

Detailed settings of RMS that are the type, space, and etc. can be set.



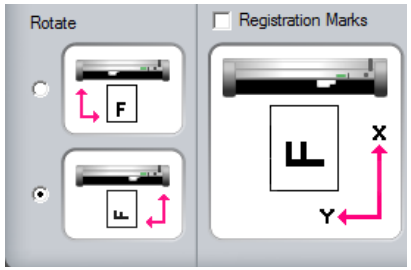
2. Media Lists:

The media list that includes the cutting condition settings can be created and saved to the file. It can also be re-loaded.


Edit Media List
Condition No. Media Name Tool Force Speed Accel
1 Indoor vinyl CB09U 14 30 2
2 (Pen) Pen 12 30 2
3 Outdoor vinyl CB09U 12 30 2
4 Clear film CB09U 17 20 2
5 Reflective film CB09U 17 20 2
6 Fluorescent film CB09U 22 10 2
7 Car film CB09U-K60 17 30 2
8 Thick substrates CB15U 30 5 1
Small letter CB15UB 14 20 2
New...
Edit...
Delete
Copy...
Load...
Import...
Export...
Close

3. Rotate & RMS settings:

The rotate function can be set to match the media loading direction. The RMS function can be enabled.



Specifications (STD)

Item	CE6000-40	CE6000-60	CE6000-120	CE6000-120-AMO
Max. cutting speed	600mm/s all directions	900mm/s at 45º direction	1000mm/s at 45º direction	
Max. acceleration	21.2m/s^2 (2.2G) at 45º direction		13.9m/s^2 (1.4G) at 45º direction	
Max. cutting force	Instantaneously 3.23N (330gf) Guaranteed 2.94N (300gf) 31 steps	Instantaneously 4.90N (500gf) Guaranteed 4.41N (450gf) in 38 steps	Instantaneously 4.90N (500gf) Guaranteed 4.41N (450gf) in 38 steps	
Max. cutting area	375mm x 50m	603mm x 50m	1213mm x 50m	
Mountable media (*1)	Min.: 50mm Max.: 484mm (19 in.)	Min. 50mm Max.: 712mm (28 in.)	Min.: 85mm Max.: 1346mm (53 in.)	Min.: 120mm Max.: 1346mm (53 in.)
Number of push roller	2 rollers	2 rollers	3 rollers	4 rollers
Cutting margin	Normal mode: Front 15mm, Rear 30mm, Left/Right 15mm Expand mode: Front 10mm, Rear 30mm, Left/Right 5mm * In expand mode, the guaranteeing accuracy is not applied. * Perforation cut is used, the margin on back is 35mm. * When ARMS is used, the effective cutting area in CE6000 is the same as the above even if it is outside of the registration mark. In the CE5000, effective cutting are is inside of registration mark.			
Cutting are of guaranteed accuracy (*2)	356mm x 2m	Normal: 584mm x 2m With basket: 584mm x 5m	Normal: 1194mm x 2m With basket: 1194mm x 5m	
Repeatability	Max. 0.1mm up to 2m (when operated with Graphtec specified media and condition)			
ARMS	Scanning mark by optical sensor, ARMS5.0 (4/3/2 point, Matrix copies, Segmented area, auto-detect, copy, media holder, etc.)			
Mark scanning margin	Mark type 1: Front 15mm, Rear 35mm, Left/Right 15mm Mark type 2: Front 17mm, Rear 37mm, Left/Right 15mm * max. length 2m			
Tool & tool holder	Number of tool: 1, Type of tool holder: Elliptic hole (same type as FC8000)			
Perforation cut	Function available			
Operation mode	Selectable Simple/Normal			
Media type	Self-adhesive marking film (Vinyl, fluorescent, or refractive), polyester film up to 0.25mm thickness (excluding high-intensity refractive film)			
Interface	RS-232C, USB2.0 (Full speed)			
Command sets	GP-GL, HP-GL™ emulation (selected by control panel, GP-GL/HP-GL/Auto detect)			
Display	3.7-in. graphic type LCD (240dots x 128dots), Display 10 languages including 2-byte system as Russian, Chinese, Korean			
Attached software	Windows Driver, Graphtec Studio, Cutting Master 3, Plotter Controller			
Dimensions (W x D x H)	672mm x 338mm x 266mm	900mm x 593mm x 1046mm	1541mm x 736mm x 1250mm	
Weight	Approx. 10.5kg	Approx. 21kg including stand	Approx. 40.5kg including stand	

*1 Minimum media width for the cutting area of guaranteed accuracy is distance inside between push rollers that is set to 5mm from both ends of media.
*2 When operated with Graphtec specified condition.

Accessories (STD)

Item		Description	Q'ty	CE6000-40	CE6000-60	CE6000-120(AMO)
Power cord		The type of cord is different by destination	1	○	○	○
Cutter blade holder		PHP33-CB09N-HS	1	○	○	○
Cutter blade		CB09UB	1	○	○	○
Separate cutter		Cutter for cut off media manually, Q-100P	1	○	○	○
Fiber-tip pen holder		PHP31-FIBER	1	○	○	○
Water-based fiber-tip pen		KF700-BK (black ink)	1	○	○	○
Carrier sheet of media		A3 size, 1 sheet/pack	1	○	N/A	N/A
Roll media stocker		For CE6000-40, 60	1	○	○ (E, C, K) N/A (ES)	N/A
Stand	ST0100	For CE6000-60	1	N/A	○ (ES) N/A (E, C, K)	N/A
	ST0101	For CE6000-120	1	N/A	N/A	○
USB cable		USB cable 2.9m long, CBL1112ACL2-2.9M	1	○	○	○
DVD-ROM		User manual (PDF format)	1	○	○	○
		Windows driver OPS662				
		Plotter controller OPS676				
		Design software Graphtec Studio (Win/Mac)				
		Plug-in software Cutting Master 3 for Adobe Illustrator (Win/Mac) and CorelDRAW (Win)				
Quick manual			1	○	○	○
Safety guide			1	○	○	○

Options & Supplies

Options

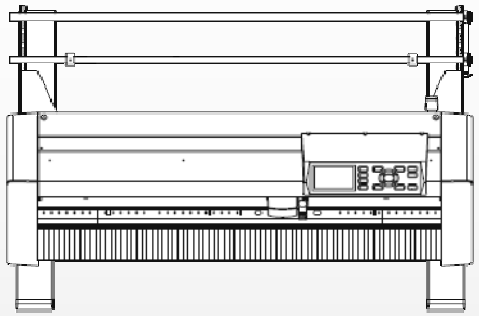
Model number		Description	CE6000-40	CE6000-60	CE6000-120
Stand	ST0100	Stand for CE6000-60	N/A	○	N/A
Basket	PG0100	Basket for CE6000-60	N/A	○	N/A
	PG0101	Basket for CE6000-120	N/A	N/A	○

Supplies

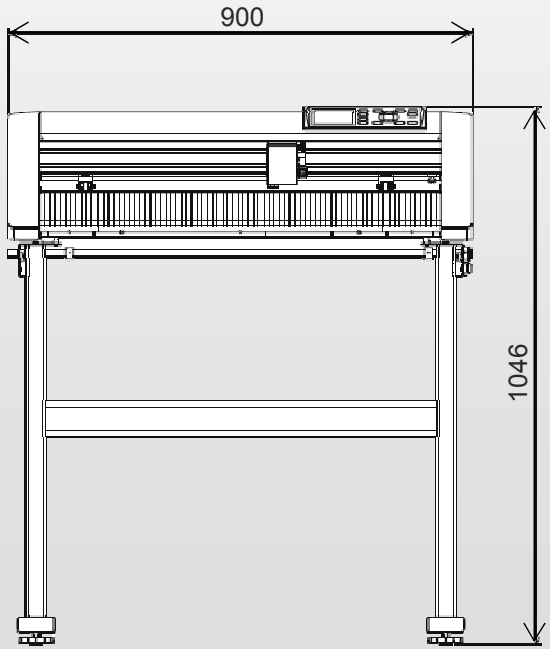
Model number		Description	Package	CE6000-40	CE6000-60	CE6000-120
Cutter blade holder	PHP33-CB09N-HS	For 0.9mm dia. Blade (CB09UB)	1 pc/pack	○	○	○
	PHP33-CB15N-HS	For 1.5mm dia. Blade (CB15U)	1 pc/pack	○	○	○
Cutter blade	CB09UB-5	0.9mm dia., super steel	5 pcs/pack	○	○	○
	CB15U-5	1.5mm dia., super steel	5 pcs/pack	○	○	○
	CB15UB-2	1.5mm dia., for small character	2 pcs/pack	○	○	○
	CB09UB-K60-5	0.9mm dia., for cutting tint film	5 pcs/pack	○	○	○
Fiber-tip pen holder	PHP31-FIBER	For KF700 series pen	1 pc/pack	○	○	○
Water-based fiber-tip pen	KF700-BK	Black	10 pcs/pack	○	○	○
	KF700-RD	Red	10 pcs/pack	○	○	○
	KF700-BL	Blue	10 pcs/pack	○	○	○
Ballpoint pen holder	PHP34-BALL	For KB700 pen	1 pc/pack	○	○	○
Oil-based ballpoint pen	KB700-BK	Black	10 pcs/pack	○	○	○
Cutting mat	TBD	Cutting mat for CE6000-40	2 pcs/pack	○	N/A	N/A
	TBD	Cutting mat for CE6000-60	2 pcs/pack	N/A	○	N/A
	TBD	Cutting Mat for CE6000-120	2 pcs/pack	N/A	N/A	○

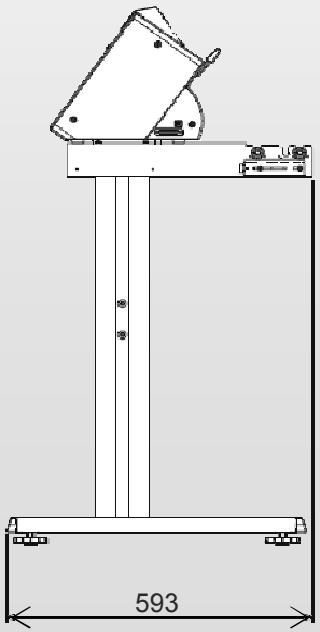
CE6000 Dimensions (STD)

CE6000-60

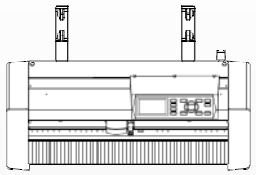


Unit: mm
Torrance: +/-5mm

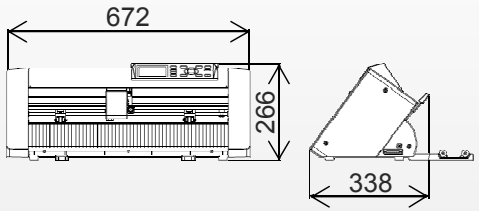




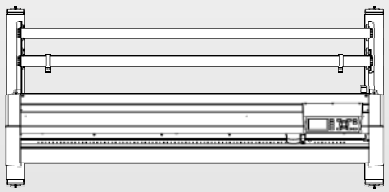
CE6000-40



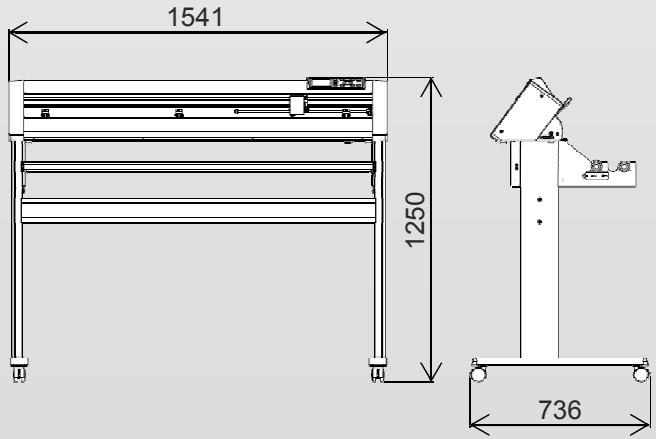
Unit: mm
Torrance: +/-5mm



CE6000-120/AMO



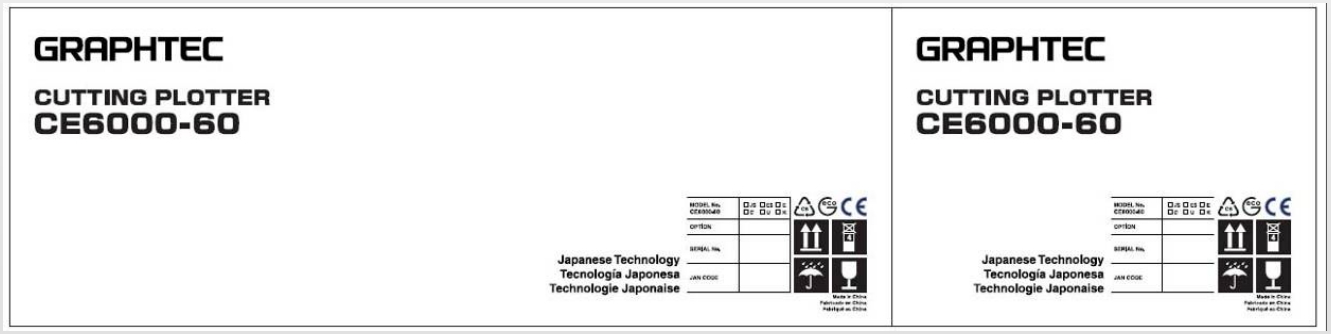
Unit: mm
Torrance: +/-5mm



CE6000 Packaging

Model	CE6000-40	CE6000-60	CE6000-120	Stand ST0100 for CE6000-60	Stand ST0101 for CE6000-120
Packaging	Semi dressing case (with printing)	Semi dressing case (with printing)	Semi dressing case (with printing)	Semi dressing case (with printing)	Semi dressing case (with printing)
Size (W x H x D) mm	821 x 505 x 369 (32.3” x 19.9” x 14.5”)	1046 x 505 x 369 (41.1” x 19.9” x 14.5”)	1700 x 505 x 369 (66.9” x 19.9” x 14.5”)	1036 x 260 x 255 (40.8” x 10.3” x 10.1”)	1560 x 380 x 220 (61.5” x 15.0” x 8.7”)
Gross weight	13.6 kg (29.9 lb)	16.5 kg (36.3 lb)	31.3 kg (68.9 lb)	10.3 kg (22.7 lb)	21.3 kg (46.9 lb)
Number of stacking (Storage in warehouse)	Max. 5 stacks	Max. 5 stacks	Max. 5 stacks	(Tentative) Max. 6 stacks	(Tentative) Max. 4 stacks
Number of stacking (Containerized transportation)	Max. 5 stacks	Max. 5 stacks	Max. 5 stacks	(Tentative) Max. 6 stacks	(Tentative) Max. 4 stacks

Package design CE6000



Package design Stand

CE6000 series

Appendix material

Product line-up & Destination code (STD)

Line-up of CE6000 and configuration for each destination

Model		CE6000-40			CE6000-60				CE6000-120			CE6000-120 -AMO (*1)		
Destination code		E	C	K	E	ES	C	K	ES	CS	KS	ES	CS	KS
Configuration	Main unit	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Stand					✓			✓	✓	✓	✓	✓	✓
	Roll-medium tray	✓	✓	✓	✓		✓	✓						
	Additional Push Roller											✓	✓	✓
Option	Stand, ST0100				✓		✓	✓						
	Basket, PG0100				✓	✓	✓	✓						
	Basket, PG0101								✓	✓	✓	✓	✓	✓

*1. CE6000-120-AMO has one additional push roller (total 4 rollers).

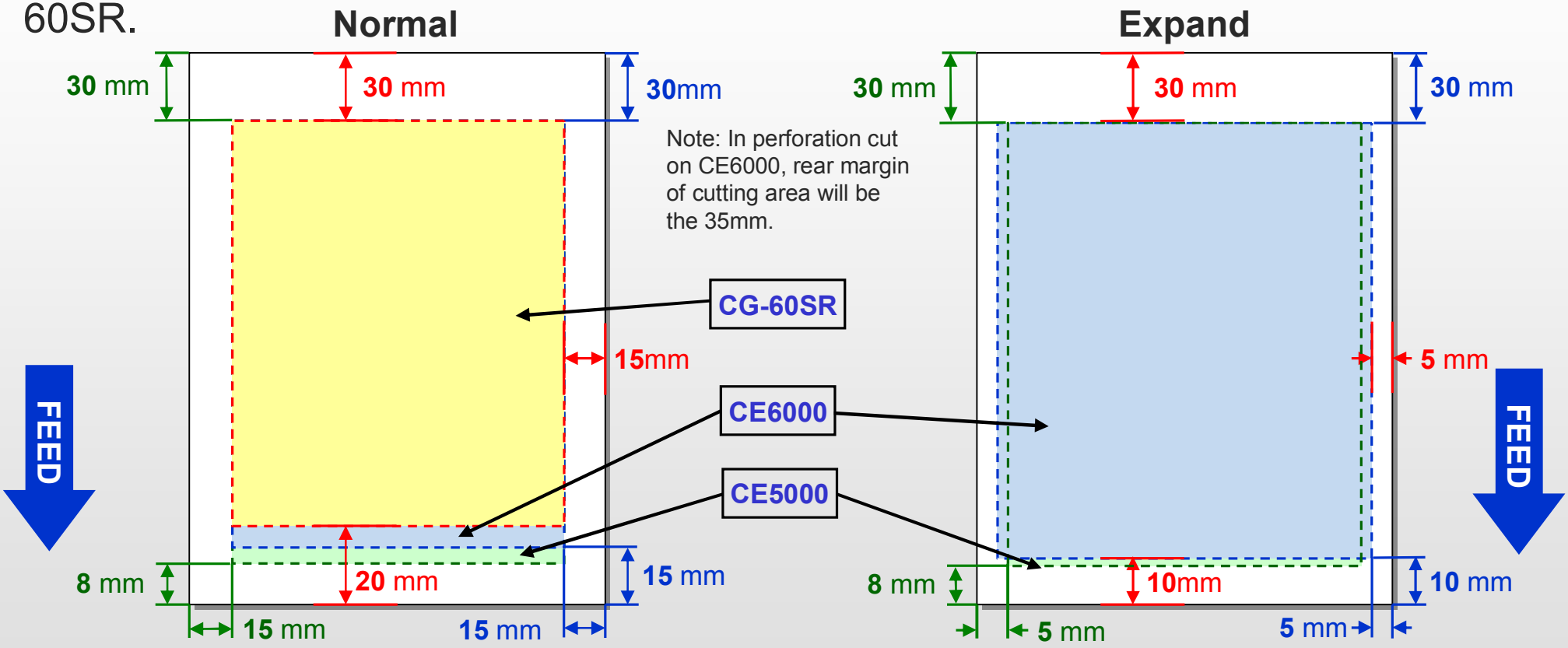
Note
Code of destination; E/ES: European/Asian market, C/CS: China/Taiwan market, K/KS: Korean market

Cutting area (CE6000 vs CE5000) (STD)

Basic performance

Wider effective cutting area in CE6000

The effective cutting area in the normal mode of the CE6000 is wider than the CG-60SR.



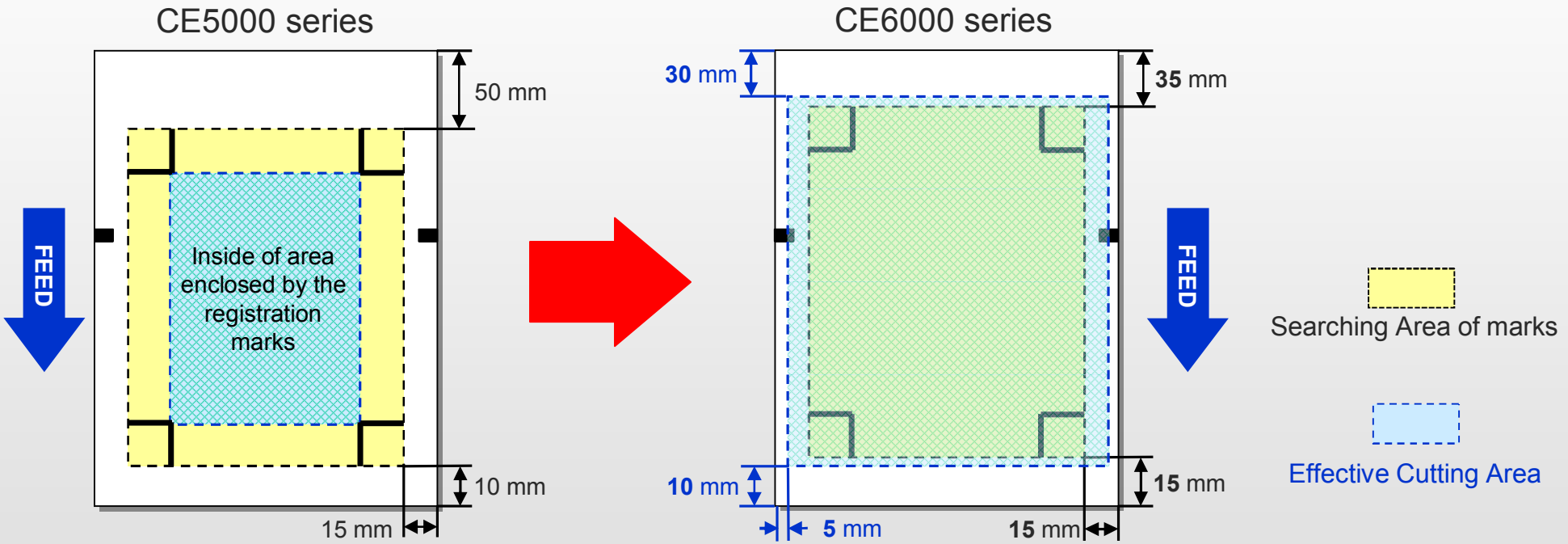
Model	CE5000			CE6000			CG-60SR		
	Front	Rear	Left /Right	Front	Rear	Left / Right	Front	Rear	Left / Right
Normal	8mm	30mm	15mm	15mm	30mm	15mm	20mm	30mm	15mm
Expand	8mm	30mm	5.5mm	10mm	30mm	5mm	10mm	30mm	5mm

ARMS 5.0 *Advanced Registration Mark Sensing System* (STD)

Enhanced functions

Mark searching area and effective cutting area

Expand the effective cutting area in the ARMS, it will improve production efficiency.



Note: In perforation cut, rear margin of cutting area will be the 35mm.

Model	CE5000			CE6000		
	Front	Rear	Left & Right	Front	Rear	Left & Right
Margin of Searching area	10mm	50mm	15mm	15mm	35mm	15mm
Margin of cutting area	Inside of registration marks			10mm	30mm	5mm

Cutter blade, Blade holder

Available four types of cutter blades according to the application

Blade model	Photo	Description
CB09UB-5		Supersteel blade, 0.9mm dia., 45 degree angle, 5 blades/pack For media thickness of 0.25mm or less
CB09UB-K60-5		Supersteel blade, 0.9mm dia., 60 degree angle, 5 blades/pack For cutting tint film
CB15U-5		Supersteel blade, 1.5mm dia., 45 degree angle, 5 blades/pack For media thickness of 0.25 to 0.5mm
CB15UB-2		Supersteel blade, 1.5mm dia., 45 degree angle, 2 blades/pack For cutting of small characters, media thick. of 0.25mm or less

Blade Holder

(Compatible to RoHS directive)

PHP33-CB15N-HS
For the 1.5mm diameter blade

PHP33-CB09N-HS
For the 0.9mm diameter blade

Comparison in 60 size (STD) (Mimaki, Roland DG, Summa)

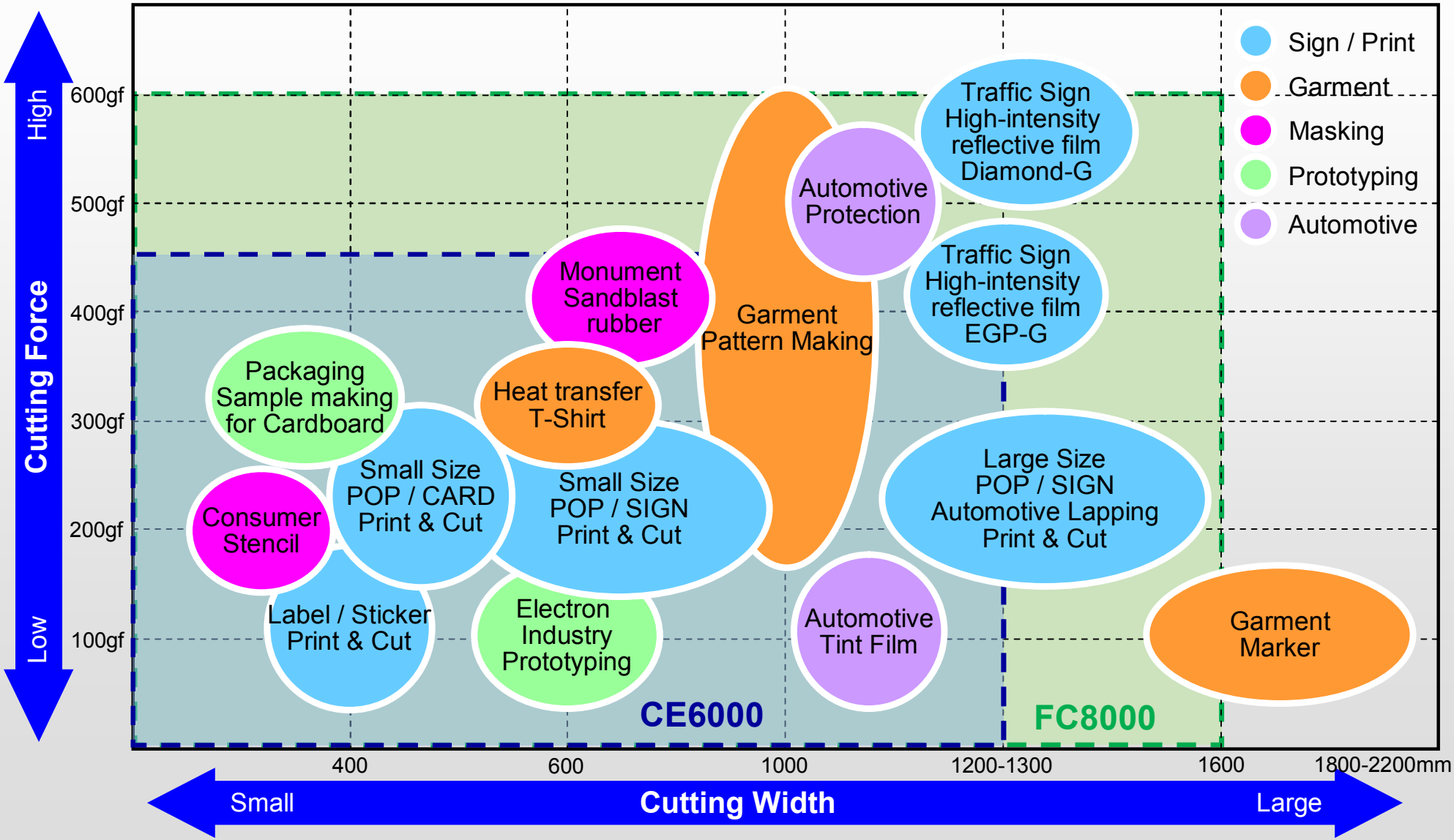
Product		GRAPHTEC	Graphtec	Mimaki	Roland	Summa
Model Name		CE6000-60 (STD)	CE5000-60	GC-60SR	GX-24 (CAMM1)	D60R (SummaCut)
Photo Image						
Cutting Speed		900mm/s	600mm/s	850mm/s	500mm/s	800mm/s (1130mm/s@45)
Cutting Force		500gf 4.9N (@ instant.)	300gf 2.9N	400gf 3.9N	250gf 2.4N	400gf 3.9N
Maximum Cutting Area		603mm x 50m	603mm x 50m	606mm x 51m	584mm x 25m	630mm x 50m
Compatible film width		Max. 712mm, Min. 50mm	Max. 712mm, Min. 50mm	Max. 640mm, Min. 90mm (Roll media)	Max. 700mm, Min. 50mm	Max. 670mm, Min. 70mm
RMS	Axis alignment	4-points	4-points	4-points	3-points	4-points
	Area segmentation	Yes	Yes	No	No	Yes
	Multi mark sensing	Yes	Yes	Yes	No	Yes
	Auto origin search	Yes	Yes	No	No	Yes
Interface		USB2.0, RS-232C	USB2.0, RS-232C	USB	USB1.1	USB, RS-232C
Cutting Plotter Controller		Full control from a PC, Reading conditions from CE6000. 	Control from a PC, Reading limited information from CE5000. 	No	No	Yes
Software	For Illustrator	Cutting Master 3	Cutting Master 2	Fine Cut	CutStudio	Win Plot
	For CorelDRAW	Cutting Master 3	Cutting Master 2	SimpleCut	CutStudio	Macsign Cut
	Design	Graphtec Studio	ROBO Master Pro	N/A	CutStudio	N/A
Stand		Standard / Option	Standard	Option	Option	Option

Comparison in 120 size (STD) (Mimaki, Roland DG, Summa)

Product		GRAPHTEC	Graphtec	Mimaki	Roland	Summa
Model Name		CE6000-120	CE5000-120	GC130-SR II	GX-500 (GX Pro)	D120R (SummaCut)
Photo Image						
Cutting Speed		1000mm/s 39.4in./s	1000mm/s 39.4in./s	850mm/s 33.4in./s	850mm/s 33.4in./s	800mm/s (1130mm/s@45) 31.5in./s (4.45in./s @45))
Cutting Force		500gf 4.9N (@ instant.)	450gf 4.4N	400gf 3.9N	350gf 3.4N	400gf 3.9N
Maximum Cutting Area		1213mm x 50m 47.7in. x 164 ft.	1213mm x 50m 47.7in. x 164ft.	1370mm x 25m 53.9in. x 82ft.	1195mm x 25m 47in. x 82ft.	1230mm x 50m 48.4in x 164ft.
Compatible film width		Max. 1346mm, Min. 85mm Max. 53in., Min. 3.3in.	Max. 1346mm, Min. 85mm Max. 53 in., Min. 3.3in.	Max. 1550mm, Min. 90mm Max. 61in., Min. 3.5in.	Max. 1372mm, Min. 90mm Max. 54in., Min. 3.55in.	Max.1270mm, Min.120mm Max. 50in., Min. 4.7in.
RMS	Axis alignment	4-points	4-points	4-points	3-points	4-points
	Area segmentation	Yes	Yes	No	No	Yes
	Multi mark sensing	Yes	Yes	Yes	No	Yes
	Auto origin search	Yes	Yes	No	No	Yes
Interface		USB2.0, RS-232C	USB2.0, RS-232C	USB, RS-232C	USB1.1, RS-232C	USB, RS-232C
Cutting Plotter Controller		Full control from a PC, Reading conditions from CE6000.	Control from a PC, Reading limited information from CE5000.	No	No	Yes
Software	For Illustrator	Cutting Master 3	Cutting Master 2	Fine Cut	CutStudio	Win Plot
	For CorelDRAW	Cutting Master 3	Cutting Master 2	SimpleCut	CutStudio	Macsign Cut
	Design	Graphtec Studio	ROBO Master Pro	N/A	N/A	N/A
Stand		Standard / Option	Standard	Standard	Standard	Standard

Market Map by Application

CE6000 Target Market: Sign & Graphics, Printing, Office & Shop



Comparison (CE6000 vs CE5000) (STD)

Model	CE6000 (STD)		CE5000
Size line-up	40, 60, 120cm (15in., 24in., 48in.)	=	40, 60, 120cm (15in., 24in., 48in.)
Max. speed	40 (15”): 600mm/s at All directions 60 (24”): **900mm/s** at 45º direction 120 (48”): 1000mm/s at 45º direction	>	40 (15”): 400mm/s at All directions 60 (24”): 600mm/s at All directions 120 (48”): 1000mm/s at 45º direction
Max. acceleration	40 (15”): 2.2G at 45º direction 60 (24”): 2.2G at 45º direction 120 (48”): 1.4G at 45º direction	=	40 (15”): 1.5G at All directions 60 (24”): 1.5G at All directions 120 (48”): 1.0G at All directions
Max. force	40 (15”): **330gf** (3.2N) @ instant. 60 (24”): **500gf** (4.9N) @ instant. 120 (48”): **500gf** (4.9N) @ instant.	>	40 (15”): 300gf (2.9N) 60 (24”): 300gf (2.9N) 120 (48”): 450gf (4.4N)
Media type	Self-adhesive vinyl film (PVC, Fluorescent, Reflective) excluding high-intensity reflective film	=	Self-adhesive vinyl film (PVC, Fluorescent, Reflective) excluding high-intensity reflective film
Language	**10 languages** (including 2-byts character system as Korean, Chinese, Japanese)	>	6 languages (Alphanumeric, Kana)
Display	**Graphic type LCD** (240dots x 128dots)	>	Character type LCD (1 line)
Interface	RS-232C, USB2.0 (Full speed)	=	RS-232C, USB2.0 (Full speed)
Registration Mark Sensing	**ARMS5.0**	>	ARMS3.0
Perforation cutting	**Supported**	>	N/A
Operation mode	**Simple, Normal**	>	Normal
Illustrator Plug-in	**Cutting Master 3**	>	Cutting Master 2
Corel Draw Plug-in			
Application software	**Graphtec Studio**	>	ROBO Master-Pro in 15” model
Controller	**Full control (Similar as FC8000)**	>	Limited control (Similar as CE3000)